

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE APPEAL BOARD

DOCKETED  
USNRC

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In the Matter of )

PACIFIC GAS AND ELECTRIC COMPANY )

(Diablo Canyon Nuclear Power )  
Plant, Units 1 and 2) )

Docket Nos. 50-275 O.L.  
50-323 O.L.

JOINT INTERVENORS' SUPPLEMENT TO MOTION  
TO AUGMENT OR, IN  
THE ALTERNATIVE, TO REOPEN THE  
RECORD

On February 14, 1984, the Joint Intervenors filed a Motion to Augment or, in the Alternative, to Reopen the Record in the reopened design proceeding to receive further evidence regarding significant and highly relevant new information obtained through former Diablo Canyon Project engineer Charles Stokes and the subsequent NRC investigation of those allegations. Following receipt of responses to that motion, this Appeal Board deferred consideration of the information and issued its decision in the reopened proceeding. ALAB-763, at 103 (March 20, 1984).

Less than one week thereafter, the Commission received written testimony from NRC Region III Inspector Isa Yin, who was principally responsible for a substantial part of the NRC Staff's investigation of the Stokes allegations. In his Statement, Mr. Yin portrayed a far different picture of the NRC Staff's investigative

findings than was presented to this Board in the Staff's opposition to the Joint Intervenors' motion. In contrast to the Staff's denigration of the significance of the information, Mr. Yin concluded:

(1) Almost all of the Stokes allegations assigned to me for follow-up had been substantiated;

(2) Based on the number of assessed violations of 10 C.F.R. 50, Appendix B criteria resulting from follow-up on these allegations and the independent overview inspections, it was concluded that there had been apparent QA program breakdown in the areas of S/B and L/B piping design control;

(3) The lack of licensee L/B and S/B piping system design control that had resulted in an alarmingly large number of calculation errors and deficiencies that had slipped through various review and checking stages, is indicative of the failure of the Corrective Action Program conducted by the Diablo Canyon Project group in the past two years;

(4) Discussions [with the DCP] included onsite design personnel training, document control, audits, design verification, thermal loading release within the rigid restraint gaps, and snubber/rigid restraint interaction. At the time of the meeting, none of the issues was considered to be a problem by DCP. However, during follow-up inspections, all of the above items had resulted in staff reassessment of violation items. The event reflected DCP's lack of concern for establishment and implementation of a sound design control QA program;

(5) Hardware problems involving snubber and rigid restraint interaction . . . had resulted [at La Salle] . . . in removal and replacement of hundreds of large and small size mechanical snubbers. The DCP's position

in regarding the same situations identified at DCNPP to be not a problem, requires in-depth review and evaluation by the staff.

Based on these conclusions, Inspector Yin urged the Commission not to allow the plant to "go critical" at this time. (See attached Differing Professional Opinion of Isa Yin, Inspector, NRC Region III (March 26, 1984).

This new information bears obviously on the Joint Intervenors' pending motion and on the accuracy of the Board's conclusions in ALAB-763. Moreover, it contradicts the NRC Staff's representations in its opposition to the Joint Intervenors' motion and, in light of Mr. Yin's key role in the Staff's investigation, it raises the question why the Staff failed even to mention Mr. Yin's findings, his opinion, or the fact that the Staff was adopting a position significantly different than that conveyed by the inspector principally responsible, and described by Mr. Yin in his testimony to the Commission.<sup>1/</sup>

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<sup>1/</sup> When the Joint Intervenors' counsel asked NRC Staff counsel by telephone on March 27, 1984 why no affidavit by Inspector Yin had been included in the Staff's response, he stated simply that Mr. Yin was "out of town." That excuse is patently inadequate. The Staff has an obligation of full disclosure to the Board of all relevant information. We consider a serious breach of that obligation the Staff's failure to inform the Board and all parties of Inspector Yin's findings, in light of their significance and the fact that Yin was assigned lead responsibility for investigation of many of the Stokes allegations. The Staff's material false statement by omission is a clear example of the Staff acting not as a representative of the public, but as an advocate for the application. Such conduct renders these licensing proceedings little better than a farce.

Other documentation recently released relating to Inspector Yin's findings includes his oral testimony to the Commission on March 26-27, 1984 (attached hereto as an exhibit), the transcript of a March 28, 1984 meeting of Mr. Yin and representatives of PGandE (served on the Board and all parties by Board Notification 84-068 (March 28, 1984)), and the draft Inspection Report (Rev. 3), and Summary of Findings by Isa Yin (served on the Board and all parties by Board Notification 84-071 (April 3, 1984)). Each of these documents provides further explanation of and support for the findings of QA and design deficiencies referred to in his written testimony to the Commission. In particular, the March 28, 1984 transcript and the draft Inspection Report and Summary of Findings provide a highly detailed description of the basis for the finding, the sources of the information, the proposed NRC Staff conclusion, and the regulatory provision violated by the deficiency. The general categories of deficiencies include personnel indoctrination and training, identification of nonconformances and corrective action, document control, procedures, implementation of procedures, design control, audits, and control of contractors. Within each category, numerous examples are provided based on the Staff's investigation, examples that undermine both the adequacy of the Diablo Canyon design as a whole and the reliability of the IDVP conclusions.

All of this new information is significant and directly relevant to the matters raised in the Joint Intervenor's motion and considered in ALAB-763. Accordingly,



for all these reasons, the Joint Intervenorors reaffirm their pending motion and supplement that motion with the following materials relating to the Yin testimony:

- (1) Yin Testimony to Commission (March 26, 1984) (attached);
- (2) Transcript, Commission Meeting (March 26-27, 1984) (excerpts attached);
- (3) Transcript of Meeting between Yin and PGandE (March 28, 1984) (served on Board and all parties by Board Notification 84-068 (March 28, 1984));
- (4) Draft Inspection Report (Rev. 3) and Summary of Findings by Isa Yin (served on Board and all parties by Board Notification 84-071 (April 3, 1984)).

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Based on the foregoing, and for all the reasons previously stated, the Joint Intervenors urge that their motion to augment or, in the alternative, to reopen the record be granted.

Dated: April 6, 1984

Respectfully submitted,

JOEL R. REYNOLDS, ESQ.  
ETHAN P. SCHULMAN, ESQ.  
ERIC R. HAVIAN, ESQ.  
JOHN R. PHILLIPS, ESQ.  
Center for Law in the  
Public Interest  
10951 W. Pico Boulevard  
Los Angeles, CA 90064  
(213) 470-3000

DAVID S. FIEISCHAKER, ESQ.  
P. O. Box 1178  
Oklahoma City, OK 73101

BY

  
JOEL R. REYNOLDS

Attorneys for Joint Intervenors

SAN LUIS OBISPO MOTHERS FOR  
PEACE  
SCENIC SHORELINE PRESERVATION  
CONFERENCE, INC.  
ECOLOGY ACTION CLUB  
SANDRA SILVER  
ELIZABETH APFELBERG  
JOHN J. FORSTER

My name is Isa Yin. I am presently working in Region III, Division of Engineering as a Senior Mechanical Engineer. Relative to the Diablo Canyon Nuclear Power Plant (DCNPP) team investigation effort, I was assigned the responsibility of following up on some of the allegations made by Mr. Charles Stokes. The specific investigation areas were restricted to the site small bore (S/B) piping suspension system design control. However, due to hardware deficiencies observed during plant walkdown, the licensee design control measures for large bore (L/B) piping system had also been included as a part of the overview inspection and evaluation.

As a result of the investigation and inspection findings, it is my professional opinion that the Unit 1 reactor should not be permitted to go critical at this time.

The reasons for such determination are as follow:

1. Almost all of the Stokes allegations assigned to me for followup had been substantiated. Based on the many assessed violations against the 10CFR50 Appendix B criteria resulting from followup on these allegations and the independent overview inspections, it was concluded that there had been apparent QA program breakdown in the areas of S/B and L/B piping design control.

2. Piping systems cannot be subjected to true functionality tests until after severe transient conditions, such as an earthquake, had occurred. The assurance of system operability relies principally on analytical methods. In spite of this dependence on theory and analysis, the lack of licensee L/B and S/B piping system design control that had resulted in an alarmingly large number of calculation errors and deficiencies that had slipped through various review and checking stages, is indicative of the failure of the Corrective Action Program conducted by the Diablo Canyon Project (DCP) group in the past two years.
  
3. Issues raised in responding to the staff's initial concerns were discussed during a meeting held with DCP personnel at NRC-NRR office on December 15, 1983. Discussions included onsite design personnel training, document control, audits, design verification, thermal loading release within the rigid restraint gaps, and snubber/rigid restraint interaction. At the time of the meeting, none of the issues was considered to be a problem by DCP. However, during followup inspections, all the above items had resulted in staff assessment of violation items. The event

reflected DCP's lack of concern for establishment and implementation of a sound design control QA program.

4. Hardware problems involving snubber and rigid restraint interaction that could make the snubber inoperable under design conditions were identified in La Salle Unit 1 just before the NRC operation license hearing, and had resulted in licensee filing of a 10CFR50.55(e) report, and removal and replacement of hundreds of large and small size mechanical snubbers. The DCP's position in regarding the same situations identified at DCNPP to be not a problem requires in-depth review and evaluation by the staff.
  
5. At the present, with fuel loaded in the Unit 1 reactor, the access control including complicated security system, and the poor air quality resulted from system hot functional testings, makes inspection inside the containment difficult and intolerable. With the <sup>expectation</sup> ~~expectation~~ that there will be: (a) substantial amount of staff and licensee reinspection activities, and (b) some system hardware modification and re-work, to allow reactor low power testing before resolving the existing problems could discourage additional inspection effort and could hinder any required corrective actions.

*I. Yin*  
3/26/8



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the matter of:

DISCUSSION/POSSIBLE VOTE ON DIABLO  
CANYON CRITICALITY AND LOW  
POWER OPERATION

Docket No.

Location: Washington, D. C.

Pages: 1 - 135

Date: Monday, March 26, 1984

**TAYLOE ASSOCIATES**

Court Reporters  
925 I Street, N.W. Suite 1004  
Washington, D.C. 20006  
(202) 293-3690

1 at five percent anyway. So they only go up to two, three,  
2 four, five percent, to do the physic test or moderator  
3 expansion, and these kinds of things, and shut back down.

4 So remember, we did look at the exposure, in terms  
5 of megawatt days, at the time and decided it wasn't needed.

6 CHAIRMAN PALLADINO: I should call attention that  
7 out of the six items, it's taken an hour and three quarters  
8 for the first one, and we still have part of the first one.  
9 I don't mean to rush you, but --

10 (Laughter.)

11 But I just call your attention to making sure that  
12 we don't duplicate question.

13 MR. EISENHUT: Perhaps we can move to the last part  
14 of the first item then, which was the small bore piping  
15 area. And Jim Knight is here to address that.

16 MR. DENTON: This is one that you should here. It  
17 has forced us to do quite a bit more review and Jim Knight,  
18 the Assistant Director of Engineering, will describe that.

19 MR. KNIGHT: If I may, just by opening -- and before  
20 I forget the question and its relationship to this subject,  
21 you earlier had asked, Commissioner Asselstine, if we would  
22 go to five percent power make anything more difficult? Just  
23 to add to what was already said, one possibility -- in thinking  
24 in terms of something like piping that is pervasive all  
25 throughout the plant -- is the necessity for scheduling times

1 for either getting in to do work or inspecting, and this  
2 type of thing, since there may well be some areas of the  
3 plant where it would be difficult to conduct an orderly  
4 inspection or an orderly operation when, in fact, it's hot.

5 But I think that's something that can be managed  
6 on the administrative basis.

7 One other earlier question was related to, if I  
8 remember properly, what portion of the allegations went to  
9 issues that were treated by the IDVP. And I would concur  
10 with Darrell's initial estimate that out of the first  
11 batch of allegations, roughly a quarter of them, there are  
12 few, if any, in the structural and system design areas that  
13 go directly to the subject of the allegation.

14 They dealt with the same subject area, like the  
15 component cooling water system. And there were a number  
16 that were in the structural area. As a matter of fact, I  
17 think those were some of the earliest allegations we have.

18 When we get into the piping area, there are some  
19 that start to deal rather specifically with issues that the  
20 IDVP did treat. I'm sorry, yes, the IDVP.

21 Is that an answer to your question?

22 COMMISSIONER ASSELSTINE: It is, and I guess I  
23 have a follow up, which is could you talk a little bit about  
24 the significance of that? Given the fact that these are  
25 allegations, if the allegations prove to be correct, what

1 significance do you attach to that, in terms of the IDVP  
2 work? Were they caught by the IDVP? If they were not caught  
3 by the IDVP review, what significance do you attach to it, in  
4 terms of the quality of the IDVP effort?

5 MR. KNIGHT: Because there were so many situations  
6 where the allegation did not go specifically to the matter  
7 looked at, the IDVP was a sampling program and it took certain  
8 specific areas and looked at them. It's difficult to draw  
9 a linear correlation between what did the IDVP look at and  
10 were the allegations, in those matters, in fact borne out  
11 or not.

12 I think you almost have to take them by category.  
13 In the structural area there were no instances, to my  
14 recollection, where the allegation was shown to be  
15 substantiated. Let me be cautious. There were areas where  
16 it might have been substantiated but the impact was  
17 negligible.

18 I remember one, a classic, where the allegation  
19 was that a certain computer code in use in the structural  
20 area did not have the capability to treat torsion in built  
21 up sections. That was true. When we reviewed the matter we  
22 found that the people who were responsible for structural  
23 design had realized that fact and had, in fact, done an  
24 initial hand calculations and synthesized the results of  
25 the hand to computer calculations to come up with what we

1 believe is an acceptable result.

2 And that, largely, was the same kind of finding that  
3 you saw made in the IDVP.

4 CHAIRMAN PALLADINO: On page E8 of 22, you speak  
5 about the computer calculations. And one of the questions  
6 I have is when will computer calculations on small bore piping  
7 will be done? Will they be done --

8 MR. DENTON: We have a whole story that we want to  
9 tell you, about small bore piping. And maybe now is the time  
10 to get into that.

11 MR. KNIGHT: These computer calculations I was  
12 talking about a distinct -- there are two separate sets of  
13 calculations. Perhaps I could finish on this first question.

14 Particularly in the area of piping, the IDVP for  
15 instance, did find in a number of areas, the same kinds of  
16 problems that we are seeing. And we'll talk about them in  
17 a minute, where they looked. And again, they didn't look  
18 at a number of areas that we have looked into.

19 In those instances, as was the mandate of the IDVP,  
20 they looked at the problems they saw. They looked at what  
21 they felt was the overall quality of engineering being performed  
22 and they made a judgment that -- and I would say a supported  
23 judgment -- that albeit there were these problems, the  
24 final quality of engineering was adequate.

25 And I think that's an important point to recognize,



1 that the IDVP was designed to have a professional experienced  
2 group go in and take an overview, and base a judgment on  
3 that overview.

4 COMMISSIONER ASSELSTINE: I gather that, at least  
5 in terms of these calculations for small bore piping, the  
6 Staff has now reached the conclusion that something more  
7 than what the IDVP program called for really is warranted.  
8 Should I draw anything, in terms of singificance, from that,  
9 in terms of the adequacy of the IDVP effort or not? Or is  
10 that --

11 MR. KNIGHT: My response is not at this time. I  
12 think it's a very significant aspect of all that the Staff  
13 has done and of the Staff's recommendation in these areas is  
14 based on the fact that despite finding some of these problems,  
15 which are not all that unique in type to Diablo Canyon, but  
16 may in some instances be above what we consider to be an  
17 acceptable level in terms of frequency of occurrence.

18 Despite this, we have not found inadequacies in the  
19 hardware, as installed in the plant. And that, too, was  
20 the principal thrust of the IDVP, to reach that bottom line,  
21 to look for that bottom line.

22 If, for instance, it should subsequently arise that  
23 we are seeing unacceptable hardware as designed, in capable of  
24 meeting the loads that are required, then we would have to  
25 step back and look and see what it means.

1           One area that might be interesting to discuss  
2 along those lines is a question that has arisen as to the  
3 prevalence of snubbers, mechanical snubbing -- mechanical  
4 hydraulic snubbers -- but are not, in the final analysis,  
5 necessary. This is an area where the IDVP simply did not  
6 look. In some instances, it has taken it almost as a given  
7 that this is a problem that exists and needs to be fixed, but  
8 not as a problem which speaks directly to functional adequacy  
9 of the systems.

10           With that, I would perhaps move on into the small  
11 bore piping area. Some 11 or 12 of the original allegations  
12 were treated under this heading of small bore piping, and after  
13 an initial period of inspection, the subject was transferred  
14 to NRR as a matter of better administration for the follow-up  
15 on the allegations since NRR would become involved.

16           The effort was carried out by inspectors from  
17 Region III, the NRR staff. We used some of our consultants  
18 from Brookhaven and on one special inspection, received  
19 assistance from an inspector from Region I. All of this  
20 covered about the past, oh, I guess it's going on four months,  
21 and the result has been that we have reached a point now where  
22 we see problems in the design QA program conducted, particularly  
23 the on-site engineering group.

24           We have, aside from both programmatic and  
25 implementation problems, we have discerned what we consider

1 an unacceptable error rate in the one class of calculations  
2 and those were the calculations performed by computer on the  
3 small bore piping supports.  
4

5 Following up on --

6 COMMISSIONER GILINSKY: Can I ask you something  
7 about that? I noticed in one of the documents that the  
8 error rate was something like 20 percent as opposed to the  
9 usual 10 percent. Now, the 10 percent sounded a little bit  
10 high.

11 MR. KNIGHT: Yes, and I suppose you might get  
12 some argument. The consensus of people both on the staff  
13 and industry and talking to people on piping committees is  
14 that if you go in to look at a mass of calculation tasks  
15 like small bore piping, you will find on the order of a  
16 10 percent error rate. Now, that doesn't say that 10 percent  
17 of the calculations or that 10 percent of the calculations  
18 are giving an erroneous finding, but it's saying that in  
19 10 percent of those calculations you'll find something  
20 ranging anywhere from an inadequate round-off to a rather  
21 significant error in computer input or modeling. But  
22 that's a judgment call. There is no extensive study to  
23 back that up.

24 But in talking to the people who have been  
25 involved in this for a number of years, that's the figure we  
come up with.

1 CHAIRMAN PALLADINO: But why in this case did  
2 we get the 20 percent?

3 MR. KNIGHT: Well, I think clearly the problems  
4 that are going to be discussed in the not too distant future  
5 both here at the table and also with the utility in design,  
6 implementation and document controls and in the general  
7 conduct of the design program, led to, first of all, the  
8 situation where errors were created and secondly, where  
9 they were missed. These calculations were checked.

10 COMMISSIONER GILINSKY: Was small bore piping  
11 handled differently than larger piping? Handled by a  
12 different group?

13 MR. KNIGHT: It's handled by a different group.  
14 It's handled by a group onsite as opposed to the large  
15 bore piping, which is done by engineers in the design  
16 offices at the home office and in this particular case in  
17 PG&E and Bechtel, San Francisco. And that's the usual  
18 procedure. It's done by usually a self-contained group  
19 onsite because there is such an intensive interaction.  
20 This piping is one of the last things done in the plant, it  
21 has to be run in and around structures and other equipment,  
22 and a lot of custom work has to be done.

23 COMMISSIONER GILINSKY: Could you give us just  
24 a bit of a feeling for the significance of the systems in  
25 which this piping plays a role? Or the significance of

1 the piping?

2 MR KNIGHT: It ranges all the way from sample  
3 lines, half-inch, quarter inch sample lines up to systems  
4 like the reactor coolant pump seal injection. Reactor  
5 coolant pump seal cooling, excuse me. It's two inches in  
6 diameter and below in this case.

7 Of course, all of our discussions related --  
8 it's safety related systems, and each has its assigned  
9 safety fuctions.

10 MR. DENTON: What we're talking about is the  
11 supports for this piping mainly.

12 MR. KNIGHT: Yes.

13 MR. DENTON: Seismic supports, hangers, any  
14 kind of support, and these used to be done relatively  
15 simple, through handbook type equations, and today has  
16 become practically an art form as to how to properly  
17 compensate for all the stresses, including seismic.

18 CHAIRMAN PALLADINO: It was my understanding  
19 from reading -- if I read it correctly -- that the errors  
20 crept in primarily on computer analysis. Is that right?

21 MR. KNIGHT: There are, for purposes of discussion,  
22 essentially two broad groups of these calculations. One is  
23 those which are done by hand, essentially using either span  
24 formulas or some simplified approach. And the others, where  
25 a standard code like STRUDL is used. A structural analysis



1 code, and the error rate was -- that we're discussing here  
2 was in that group of calculations which were done by  
3 computer.

4 MR. DENTON: I would just say we were unhappy  
5 with the result that we found and required the utility to  
6 do samples. They did some samples, and you might relate,  
7 Jim, what was found when you had them redo a bunch of  
8 calculations.

9 MR. KNIGHT: They have now -- or at least at  
10 last report -- had taken 130 of the calculations, including  
11 those that were originally found to contain errors by the  
12 staff, and redone those calculations for the purpose of  
13 discerning whether or not with the error corrected there  
14 were still deficiencies, or would be deficiencies, in the  
15 functional capability. In other words, with the errors  
16 corrected, would the supports be shown to meet the original  
17 design criteria.

18 The answer to date has been that in each of those  
19 cases, ultimately the support was shown to be adequate as  
20 installed.

21 Since there were pressing questions on the  
22 adequacy of the design control measures employed when those  
23 calculations were done the first time, we sent the Region I  
24 inspector out to observe the process of re-reviewing those  
25 calculations to assure ourselves that it wasn't the faulty

1 process, reviewing calculations and making some of the same  
2 mistakes. In this instance, the group that did the review  
3 was back at the main office in San Francisco, and the  
4 inspector's report indicates that both the process, the  
5 qualification of the people and the process employed was  
6 sound.

7 I guess at this point it's important to try to  
8 sum up the staff's posture here. Having found these  
9 problems in design control, although we haven't completed the  
10 process whereby we would identify on one concise list each  
11 and every problem as we now see them, get a utility response  
12 and develop a corrective action, it certainly has gone far  
13 enough for us to be able to say these problems do exist,  
14 to recognize that they do exist and to look into that next  
15 step which was the adequacy of the plant as best we can  
16 discern it. And I think we've taken a pretty good look at  
17 that.

18 Given that to date we have not seen any  
19 significant impacts on the actual installed equipment in  
20 the plant, given that the plant has been through one or more  
21 heatups so if there were some broad scale inadequacy in  
22 support that would indicate a process out of control --  
23 large interferences and supports over stressing or not  
24 function, given that that has not occurred, we feel that  
25 it's desirable and prudent at this point to proceed with

1 the 5 percent license and over the next several months as  
2 an integrated program, correct the programmatic deficiencies  
3 that we've seen in the piping area and then continue on  
4 with staff review and audit of those corrective actions  
5 prior to full power licensing.

6 Now, sitting at my right is Mr. Yin from  
7 Region III who has been a principal inspector in this  
8 effort, and MR. Yin has some comments that he would like to  
9 make.

10 CHAIRMAN PALLADINO: Okay.

11 MR. YIN: Mr. Chairman and members of the  
12 Commission, I'd like to ask your permission to let me read  
13 a short deposition that I made.

14 CHAIRMAN PALLADINO: Okay.

15 MR. YIN: My name is Isa Yin. I am presently  
16 working in Region III, Division of Engineering, as a  
17 Senior Mechanical Engineer. Relative to Diablo Canyon  
18 Nuclear Power Plant team inspection effort, I was assigned  
19 the responsibility of following up on some of the allegations  
20 made by Mr. Charlie Stokes. The specific investigation  
21 areas were restricted to the site small bore piping  
22 suspension system design control. However, due to hardware  
23 deficiencies observed during plant walkdown, the Licensee  
24 design control measures for large bore piping system had  
25 also been included as a part of the overview inspection and

1 evaluation.

2 As a result of the investigation and inspection  
3 findings, it's my professional opinion that che Unit 1  
4 reactor should not be permitted to go critical at this time.  
5 The reasons for such determination are as follows:

6 One, Almost all of the Stokes allegations  
7 assigned to me for follow-up have been substantiated. Based  
8 on the many assessed violations against the 10 CFR 50  
9 Appendix B criteria resulting from followup on these  
10 allegations and the indepedent overview inspections, it was  
11 concluded that there had been apparent QA program breakdowns  
12 in the areas of small bore and large bore piping design  
13 control.

14 Two, Piping systems cannot be subjected to true  
15 functionability tests until after severe transient conditions  
16 such as an earthquake had occurred. The ensurance of  
17 system operability relies principally on analytical methods.

18 In spite of this dependence on theory and analysis,  
19 the lack of licensee large bore and small bore piping system  
20 design control that nad resulted in an alarmingly large  
21 number of calculation errors and deficiencies that had  
22 slipped through various review and checking stages, is  
23 indicative of the failure of the Corrective Action Program  
24 conducted by the Diablo Canyon Project group in the past  
25 two years.



1                   Issues raised in responding to the staff's  
2                   initial concerns were discussed during a meeting held with  
3                   the Diablo Canyon Project personnel at the NRC-NRR offices  
4                   on December 15, 1983. Discussions included onsite design  
5                   personnel training, document control, audits, design  
6                   verification, thermal loading release within the rigid  
7                   restraint gaps, and snubber/rigid restraint interaction.  
8                   At the time of the meeting, none of the issues was considered  
9                   to be a problem by the Diablo Canyon Project. However, during  
10                  follow-up inspections, all the above items have resulted in  
11                  staff assessment of violation items. The event reflected  
12                  Diablo Canyon Project's lack of concern for establishment  
13                  and implementation of a sound design control QA program.

14                 Four, Hardware problems involving snubber and  
15                 rigid restraint interaction that could make the snubber  
16                 inoperable under design conditions were identified in  
17                 LaSalle Unit 1 just before the NRC operation license hearing  
18                 and have resulted in licensee filing of a 10 CFR 50.50(e)  
19                 report, and removal and replacement of hundreds of large  
20                 and small bore mechanical snubbers.

21                 The Diablo Canyon Project's position in regarding  
22                 the same situations identified as the Diablo Canyon Nuclear  
23                 Power Plant to be not a problem requires in-depth review  
24                 and evaluation by the staff.

25                 Five, At the present, with fuel loaded in the



1 Unit 1 reactor, the access control including complicated  
2 security system and the poor air quality resulting from  
3 system hot functional testings, makes inspection inside the  
4 containment difficult and interolerable. With the expecta-  
5 tion that there will be, one, a substantial amount of staff  
6 and licensee re-inspection activities and, two, some system  
7 hardware modification and rework to allow reactor low power  
8 testing before resolving the existing problems could dis-  
9 courage additional inspection effort and could hinder any  
10 required corrective actions.

11 This is the end of my deposition.

12  
13 CHAIRMAN PALLADINO: You say you were reading  
14 from a deposition? Is that something we have?

15 MR. YIN: This is -- I wanted to cover everything  
16 in my mind, and then --

17 CHAIRMAN PALLADINO: I was just wondering do we  
18 have something to look at?

19 MR. KNIGHT : It's a written statement.

20 CHAIRMAN PALLADINO: Can we get it so that we  
21 can deliberate on it? Does the staff have comment on it?

22 MR. DENTON: Well, it's a clear difference of  
23 opinion but on a narrow issue. I think it would be helpful  
24 to let me try to summarize the differences. I don't think  
25 there are any technical differences between them as to what  
needs to be done, forgetting about when they're done, for

1 the moment. I think we've told the licensee to do it and  
2 I think the policy issue is do they do it before fuel load  
3 or should they be allowed to do it during low power testing.  
4

5 It's my view, taking everything into account  
6 and what goes on during low power and the fact that no  
7 hardware changes have been found to be necessary so far,  
8 that this can be done during low power testing. So the  
9 staff's view is that it's not necessary to do this prior to  
10 fuel load, but I did want to call this different view to the  
11 Commission's attention and get your guidance on that point.

12 CHAIRMAN PALLADINO: So the issue is when we  
13 do it? Is that the way you understand it, Isa?

14 MR. YIN: There usually is -- right now there  
15 are approximately 49 violation items outstanding, and it  
16 would seem to me difficult to even imagine thinking about  
17 going critical without talking about resolving at least  
18 some of the critical issues that caused the almost total  
19 QA breakdown in this particular area.

20 CHAIRMAN PALLADINO: 49 violations -- is this  
21 something that I missed earlier?

22 MR. DENTON: I think -- you need to understand  
23 that there's a team of people doing this, involving Isa  
24 from Region III, people from Region I and people from  
25 Region II and Brookhave, and I think Jim told me that the  
next step would be to -- once Isa has produced his report --

1 to have it peer reviewed by the other people from the other  
2 regions and then decide what to do. I think Isa is telling  
3 you his opinion of what the situation is there.

4 MR. YIN: The 49 violation items are all  
5 resulting from my own investigation and inspection effort.  
6 And it's divided up into eight different criteria against  
7 the 10 CFR 50 Appendix C criteria.

8 CHAIRMAN PALLADINO: Aren't these accepted by  
9 the staff as being --

10 MR. YIN: I'm not too sure they even reviewed  
11 them.

12 MR. KNIGHT: We haven't reached that point yet.  
13 As I said earlier, it needs to be -- Isa has, I believe, a  
14 few more days of inspection activity. The report then would  
15 be prepared and take its normal course to review. Here we  
16 have the task of bringing together an inspection effort  
17 conducted out of NRR, for good reason, and then to be  
18 combined with the activity now underway in Region V, since  
19 the final effort, final enforcement effort, will come out  
20 of Region V.

21 MR. DENTON: And if enforcement actions are  
22 necessary they'd be taken in due time. But I was focusing  
23 on rectifying the deficiencies in the plant, if there are  
24 any, and that's where I didn't think there was any major  
25 technical differences between Isa and the others on what

1 needs to be done with regard to doing a proper calculation  
2 and then checking the plant to see if it's still proper.  
3 And that's why I wanted to emphasize that the company has  
4 been required to begin this process, has done a relatively  
5 small number but the number that they have checked they  
6 didn't find the need to make the hardware changes. If  
7 that had come out another way, then the staff view might  
8 be different. But you have to look at it in that perspective.

9 CHAIRMAN PALLADINO: Jim, you had mentioned  
10 something about a peer review. Was the peer review going  
11 to be with regard to these 49 violations, or is the peer  
12 review going to be on the timing of corrective action?

13 MR. KNIGHT: Isa has done a lot of work and  
14 covered a lot of ground. We need to sit down with the group  
15 of people that we have assembled from all of the regions to  
16 be sure that we have a good uniform approach, and look at  
17 Isa's findings, categorize them as to significance from the  
18 standpoint of enforcement actions, if necessary, and talk  
19 about correct action programs that would address those  
20 findings. That was what I mean by a peer review.

21 MR. DENTON: Let me ask, to what extent was  
22 LaSalle allowed to make these kind of corrections during  
23 low power testing?

24 MR. YIN: It was not. It was corrected before  
25 the low power tests. It was corrected in construction.



1 There was really a concerted effort by Commonwealth Edison  
2 people, and I was the one who oversaw the effort and make  
3 sure everything was replaced or corrected.

4 CHAIRMAN PALLADINO: Do we know what needs to  
5 be corrected? Go ahead.

6 MR. DENTON: I think one issue, too, that  
7 complicates this is a question of what's adequate versus  
8 what's better. In other words, Isa thinks that many plants  
9 have too many snubbers and they could lock up and cause  
10 problems, and I think at LaSalle, through your efforts, you  
11 were able to get them to remove a large number of snubbers.

12 MR. YIN: More than 600.

13 MR. DENTON: So he's like to see the same  
14 approach taken at La Salle taken here.

15 COMMISSIONER GILINSKY: 600 snubbers removed at  
16 LaSalle as a result of your review?

17 MR. YIN: Yes. So it's really a significant  
18 problem.

19 COMMISSIONER GILINSKY: Could you say something  
20 about your background or qualifications in this area?

21 MR. DENTON: I think they're quite good.

22 MR. YIN: My previous experience was with  
23 Bechtel, Parsons and General Electric, San Jose. And I've  
24 been with the Commission for about 10 years.

25 COMMISSIONER GILINSKY: And in terms of your



1 expertise on the piping, would you say something about that?

2 MR. YIN: I have a stress analyst for many years  
3 with GE and with Bechtel.

4 COMMISSIONER GILINSKY: Have you worked with  
5 these systems in particular?

6 MR. YIN: Yes. Extensively.

7 COMMISSIONER GILINSKY: Could you just say  
8 briefly once again in a couple of sentences why turning  
9 the plant makes it more difficult to correct the problems?

10 MR. YIN: Well, I was only invited to go to  
11 Diablo Canyon four months ago, so before that, I have no  
12 knowledge about what was going on in Diablo Canyon.

13 COMMISSIONER GILINSKY: But in terms of why  
14 turning the plant on makes it more difficult to deal with  
15 these problems.

16 MR. YIN: Well, I was in the containment about  
17 two or three weeks ago, and the air was so irritating, my  
18 eyes were watering and my breathing was difficult because  
19 of the whole containment shut tight, and a lot of testing  
20 was going on. Not to mention the heat and the noise; just  
21 the air itself is so bad you just couldn't stay there for  
22 more than two hours. And I stayed there about four hours  
23 so by the time I got out I almost felt sick.

24 COMMISSIONER GILINSKY: So you're saying it's  
25 more difficult to inspect the pipe?

1           MR. YIN: Well, it's more difficult if not  
2 impossible because if you let it go critical, then you have  
3 to wear a mask or a half mask or a full mask or maybe you  
4 have to suit up, and climbing up and down, it's almost --  
5 well, it can be done but it's almost like discouraging  
6 not to do too much because physically you can't stand that  
7 kind of environment for too long.

8           CHAIRMAN PALLADINO: Harold, when they do low  
9 power testing are there periods where they cool down? Is  
10 there any difficulty in cooling down if they had to make  
11 repairs?

12           MR. DENTON: No, it's quite common I think in  
13 this period to find operational problems that didn't turn  
14 up before and require the plant to go cold shutdown and  
15 make repairs on things like valve leakage and pump seals and  
16 these kinds of things. Certainly nothing precludes going  
17 back to cold shutdown.

18                     It's a question of degree. Certainly, it would  
19 be easier to do it in terms of controls and those kinds of  
20 things, and this plant has an operating license, it's  
21 operating under a health physics program of sorts, even  
22 though it's not allowed to go critical yet. And certainly  
23 it's easier to do it than before.

24                     I think the question that we faced here is, is  
25 it necessary to do it before, and I think if this were a

1 normal plant we wouldn't require it to be done before this  
2 time.

3 COMMISSIONER GILINSKY: Well, what is it we're  
4 talking about doing? Mostly this is a recalculation.

5 MR. DENTON: Recalculation, which is in progress  
6 now and which the licensee has agreed to do, and agreed to  
7 complete before going above low power. So the question is  
8 what's going to result from these calculations. The early  
9 returns don't show much hardware changes, and that's where  
10 the judgment comes in. Do you make them complete it, and  
11 then there's the enforcement side. It seems to me it's not  
12 necessary in this case from a public safety standpoint --

13 COMMISSIONER GILINSKY: MR. Yin is shaking his  
14 head there.

15 MR. KNIGHT: Well, there are some other things.  
16 Certainly a large part of it is recalculation --

17 COMMISSIONER GILINSKY: Well, that you don't  
18 do in recalculation.

19 MR. KNIGHT: In addition, we have this matter of  
20 the excess snubbers. Now, there's a question as to whether  
21 that's something that needs to be done now or whether that's  
22 something that's a program that has, at least in other  
23 facilities, been scheduled for completion, say, by the first  
24 refueling.

25 In addition, there are a number of other things

1       that --

2                   COMMISSIONER GILINSKY: How would you decide on  
3 exceed numbers? Is it a matter of walking down the systems  
4 and taking a look at them, or recalculating them?

5                   MR. KNIGHT: In part. Both that and primarily  
6 looking at situations where the snubber is, say, adjacent  
7 to a restraint or adjacent to some penetration, for openers.  
8 But it would be a combination of inspection and calculation.

9                   MR. YIN: Let me address that question. The  
10 subject matter of snubber-rigid restraint interaction, there  
11 are three categories of problems. First, if the snubber is  
12 installed too close to a rigid restraint, the snubber will  
13 not lock up because the rigid restraint will prevent  
14 adequate snubber movements to allow it to lock up.

15                   So if the snubber doesn't lock up, you will load  
16 up the rigid restraint right next to it in the vicinity,  
17 so that will cause a safety problem.

18                   This area of the problem must be fixed before  
19 any full power operation.

20                   The secondary category involves if you review  
21 those calculations they show many snubbers with essentially  
22 no thermal movement. So the logic behind it is unknown to  
23 me because if there is no thermal movement, we don't really  
24 need a snubber; you can easily replace it with a rigid  
25 restraint. Because the whole purpose of a snubber is to

1 allow free thermal movement during normal operation  
2 conditions, and yet restrict the piping movement during  
3 a transient condition. So if there's no thermal movement  
4 there should not be any snubber; there should be a rigid  
5 restraint.

6 And the third category is the ALARA considera-  
7 tion. Those excessive snubbers that are unnecessary and  
8 are in the plant and in the tech specs, it requires almost  
9 annual inspection. So those people performing the inspection  
10 and functional testing of those snubbers will receive an  
11 unnecessary dosage. So it's a violation of the ALARA  
12 consideration criteria.

13 So they are the three categories that we have  
14 to deal with.

15 COMMISSIONER GILINSKY: Are we talking about  
16 looking at tens of locations or hundreds of locations or  
17 what?

18 MR. YIN: For LaSalle there were more than 600.  
19 For this plant I have no idea. I just casually walked  
20 through some areas -- we already identified a whole bunch.

21 COMMISSIONER BERNTHAL: Does Staff have any idea?  
22 Anybody know? What's a whole bunch, by the way? How many  
23 did you identify?

24 MR. YIN: I selected about 16. Later on, I  
25 found, just casually walking for the unintentional restraint,



1 which is another issue, quite a few. It's all talked about  
2 in the report with a table, evaluation, everything.

3 CHAIRMAN PALLADINO: Which report, Isa?

4 MR. YIN: This is my -- the report in my hand  
5 is my draft investigation inspection report, which is  
6 incomplete and some of the information are preliminary.

7 MR. DENTON: I think there are several issues  
8 that are important here. We don't know the specifics of  
9 Diablo Canyon. They have a lot of snubbers because they are  
10 one of the highest seismic designs in the U.S., so they may  
11 be necessary. I want to be sure that Isa's findings are  
12 properly reviewed and that we don't take out necessary  
13 snubbers.

14 I do think it's the kind of program that can be  
15 accomplished during this low criticality and low power  
16 testing. I don't think it cannot be straightened out  
17 before full power.

18 CHAIRMAN PALLADINO: But you do plan to  
19 straighten it out before full power?

20 MR. DENTON: That's right. So I think we can --  
21 I don't think ALARA is a real issue here during this  
22 period, and I don't think it would preclude proper inspection  
23 and testing.

24 In terms of the level that we may have to assure  
25 it's properly done, I think Isa thinks he's more likely to

1 get it done properly if you don't start up until it's all  
2 done. But I don't doubt our ability to get a proper review  
3 and all the changes that are necessary done during this  
4 period.

5 CHAIRMAN PALLADINO: Let me say I want to thank  
6 Isa for coming forward with his comments. I think he has  
7 demonstrated by his past experience that we ought to look at  
8 the snubbers and fixed supports in relationship to each  
9 other, and I think the Commission will have to weigh whether  
10 it's necessary to do it before low power. It certainly  
11 appears, based on both of your statements, that it ought to  
12 be done before full power.

13 COMMISSIONER ASSELSTINE: Joe, I had a couple  
14 of questions, if you're getting ready to go on.

15 CHAIRMAN PALLADINO: No, I was getting ready to  
16 call a break, and I think during that break we have to assess  
17 the improbability of completing everything on this agenda  
18 this afternoon, and try to develop a plan that we can come  
19 back and perhaps announce after the break.

20 COMMISSIONER ASSELSTINE: I'd like two questions  
21 for Isa.

22 CHAIRMAN PALLADINO: Go ahead.

23 COMMISSIONER BERNTHAL: I have a couple, too.

24 COMMISSIONER ASSELSTINE: Before I ask my  
25 questions, Isa, I want to tell you that at least at one

1 previous meeting I've commented -- you weren't here at the  
2 time, but I commented on one of the transcripts or a couple  
3 of the transcripts that I'd read of your meetings and the  
4 staff's meetings with the licensee on this whole small bore  
5 piping and snubber issue. And I'll just tell you now that  
6 you're here that I was very impressed with the aggressiveness  
7 and the commitment that it was apparent from those trans-  
8 cripts and the way that you were pursuing these issues, and  
9 I was very impressed with that when I read the transcripts.

10 MR. YIN: Thank you.

11 COMMISSIONER ASSELSTINE: The two questions that  
12 I had, under your first point you mentioned an apparent QA  
13 program breakdown in the areas of small bore and large bore  
14 piping design control. I had not sensed that there was the  
15 same kind of concern about the QA program on large bore  
16 piping in the other documents that I'd looked at from the  
17 staff. Is this something that is a new element?

18 MR. YIN: Right. Really, my concerns are more  
19 with the large bore than the small bore.

20 COMMISSIONER ASSELSTINE: Could you talk a little  
21 bit about what the basis for your concerns are there,  
22 because again, I didn't have the sense from things that  
23 had gone on before that that was a real problem, but I'd  
24 be real interested to hear what the basis for your  
25 concerns was.

1 MR. YIN: The 49 violation items -- maybe  
2 perhaps more than half of them were assessed against large  
3 bore, which is not really any allegation; it's all the  
4 NRC overview.

5 COMMISSIONER ASSELSTINE: Is it the same kinds  
6 of concerns that we have about the small bore in terms of  
7 the calculational work that was done?

8 MR. YIN: It's a lot more complicated.

9 COMMISSIONER ASSELSTINE: I gathered from what  
10 Jim had said before it's a different group that had done  
11 those.

12 MR. YIN: That's correct. It involved CIGNA,  
13 it involved INPO, involved Westinghouse, also involved  
14 Bechtel themselves. So the lack of control of the whole  
15 operation and interface among them -- if I have to talk  
16 about it, it's going to take time.

17 COMMISSIONER ASSELSTINE: Okay. I guess the  
18 second maybe -- I don't know. I guess I'd like to hear or  
19 see something additional on some of the problems and the like.

20 CHAIRMAN PALLADINO: Yes, we'd be interested in  
21 the nature of the control problems.

22 Is it again an interaction between snubbers  
23 and fixed point support and the expansion problem?

24 MR. YIN: Well, you really trace it back  
25 perhaps as an inadequate independent design verification

1 program by itself, and the corrective action program may not  
2 be working at all. So it's -- I haven't really drawn that  
3 conclusion yet, but it's really pointing in that direction  
4 from the many violations that we identified during the  
5 course of the inspection.

6 Now again, I think we are treating the licensee  
7 rather unfairly because on many of the items I was able to  
8 talk to you about it; I was not given the permission to even  
9 discuss with the licensee. So it may be a surprise to all  
10 the audience that we have here today, but that's the rule  
11 I have to go by, and unless the rule is changed I'm not  
12 about to talk about the findings and not talk about anything  
13 which is kind of strange.

14 CHAIRMAN PALLADINO: We're going to have to  
15 discuss this one some more, I can see.

16 MR. DIRCKS: Before you break there's one other  
17 concern we'd like you to get to this afternoon, and that's  
18 on this new geology, new seismology information because we  
19 do have someone here from the USGS and we hate to tie him  
20 up for another day.

21 CHAIRMAN PALLADINO: Well, could we take a  
22 15-minute break anyhow? I think it's important to do that.

23 Did you have a question?

24 COMMISSIONER BERNTHAL: Are we going to come  
25 back to Mr. Yin's concerns, or is that supposed to be



1 finished now?

2 CHAIRMAN PALLADINO: For the moment I was going  
3 to leave it. That doesn't mean that we're finished with it.

4 COMMISSIONER BERNTHAL: Does that mean for  
5 15 moments, or --

6 CHAIRMAN PALLADINO: No. If you have questions--

7 COMMISSIONER BERNTHAL: I'll be very brief,  
8 then. First of all, I want to compliment our staff and  
9 you, Bill, for putting the disagreement here on the table  
10 and for Mr. Yin being willing to come forward and state his  
11 disagreement with some of our staff. At the same time, I  
12 guess I'll reserve judgment on whether to chastise the  
13 staff for not recalling that on this five-member Commission  
14 there are only two engineers, and there's only one nuclear  
15 engineer that I'm aware of. And it seems to me that on an  
16 issue that's an engineering judgment issue of this type,  
17 I at least have to ask myself the question of whether it's --  
18 I don't know where it is, ACRS perhaps where we seek  
19 independence, blue ribbon, third party evaluation of some  
20 of these things, whether they should not have sat down and  
21 tried to resolve the issues or exactly where we should turn  
22 at this point. But in any case, it's good that it's on  
23 the table. I'm not quite sure what to suggest from here on.

24 One quick question. Mr. Yin, you noted how  
25 difficult it was at zero power to carry out the kind of

1 inspections within the containment that you feel are  
2 necessary. It wasn't clear to me with the possible exception  
3 of the obvious difficulty on increased radiation levels,  
4 whether you feel that the same difficulties of atmosphere  
5 and the environment that you might have to work in are  
6 exacerbated at 5 percent power or not.

7 MR. YIN: Based on the conservatism we approached  
8 in the radioactive protections, sometimes even --I go in and  
9 out many of the nuclear power plants in operation, and I  
10 come out with zero exposure. Dosage just doesn't show  
11 anything. I have to wear all kinds of things. And even  
12 writing some notes is difficult.

13 So that's the name of the game. Once you  
14 get started up and you have to wear all those things, you  
15 have to wear all those -- the mask and all kinds of things,  
16 you will make the working inside already difficult even  
17 more impossible.

18 COMMISSIONER BERNTHAL: But it is the background  
19 radiation level, then, it's the incremental --

20 MR. YIN: It's not the radiation that was really  
21 of concern. It's the crazy regulations are what the  
22 problem is.

23 (Laughter.)

24 CHAIRMAN PALLADINO: Harold, can I ask you one  
25 question. Isa spoke about large bore piping and your

1 comments related to what he found on the small bore piping  
2 Do you have a feel for what the issue is on the large bore?

3 MR. DENTON: Let me defer to Jim on that, and I  
4 do want to emphasize this was not being approached just with  
5 one person. Because of the original findings we did put  
6 together this team of people from other regions and  
7 consultants all under Jim's direction, so he's getting input  
8 on these same issues from a variety of people and I don't  
9 think he's necessarily had the benefit of Isa's latest  
10 report on this topic, but let me ask him to address this  
11 question of large bore piping.

12 MR. KNIGHT: That's true, and our focus to date  
13 on the allegations has been on the small bore piping. We  
14 have pursued large bore piping for some period of time. As  
15 a matter of fact that was one of the holdover items on the  
16 IDVP. We required them to take two additional large bore  
17 piping problems and go completely through them from  
18 beginning to end as additional assurance for ourselves,  
19 and that worked out well.

20 As I said, I haven't had the full benefit of  
21 Isa's findings on large bore piping. To the extent that some  
22 of the same QA problems are starting to show up, I've been  
23 generally aware that we might be seeing that but at this  
24 juncture, I have not been aware, and I'm still at this  
25 juncture not fully informed as to what the extent of the

1 problem is.

2 COMMISSIONER ASSELSTINE: Wouldn't that be even  
3 more significant than the small bore piping concerns in  
4 terms of the adequacy of the IDVP?

5 MR. YIN: Yes.

6 MR. DENTON: Well, I think I'm reluctant to  
7 make that large leap, that taking out snubbers invalidates  
8 the IDVP. I think it would be a substantial effort. There  
9 may be some better refinement of snubber and hanger locations  
10 that would minimize the need for inspection on this kind of  
11 thing, but I haven't reached that point.

12 One other point I guess that comes to mind, too,  
13 I think if you require it prior to fuel loading it does  
14 certainly put the pressure on the utility to do a very rush  
15 job in this case. I think since it doesn't trip my  
16 threshold for public health and safety protection during  
17 low power, I think it could be accommodated during that  
18 period, whereas if you require it to be done in advance I  
19 think you'll stop everything else they're doing out there  
20 and go to doing recalculations here. And you'd have to be  
21 careful that we don't lay on something which is a rush  
22 effort because it could take several months. Maybe you'd  
23 like to estimate how long it might take to do the program  
24 that they've already agreed to do and have started.

25 MR. YIN: Based on my personal experience

1 involving another project for similar problems, it takes  
2 about six to nine months to get it done, all depending on  
3 whether or not the individuals are given specific  
4 responsibility. In this particular job, you know, -- I'm  
5 with Region III and it's under the control of Region V,  
6 and the lead is from NRR. So it's in kind of a confusion  
7 stage.

8 So sometimes the licensee is asking who is in  
9 charge. So if we define who is going to --

10 COMMISSIONER BERNTHAL: We ask that a lot here.

11 (Laughter.)

12 MR. YIN: -- to correct the problem, I think  
13 we'll get it done easy.

14 COMMISSIONER GILINSKY: But you're not talking  
15 about a six to nine-month process, Harold, I take it.

16 MR. DENTON: I didn't think it would be that  
17 long. I thought it could be accomodated, myself, during  
18 the low power testing phase, and I really didn't know --

19 COMMISSIONER GILINSKY: Which is sort of a  
20 two-month process or something.

21 MR. DENTON: Well, seldom are they quite that  
22 short, but I didn't know what the answer would be, and I  
23 guess that's the best experience we've had. But going back  
24 again, they have been required to do a bunch of these and  
25 the ones they've done didn't result in changes. So it's --



1 we shouldn't jump to the conclusion that it's automatically  
2 going to require changes here.

3 COMMISSIONER GILINSKY: Let me just say for  
4 myself that I second Mr. Bernthal's remarks, since I  
5 haven't been critical in the past of some practices. I  
6 think it's a very good thing that you have laid out the  
7 various points of view here. And I think also, MR. Yin,  
8 I know it's not an easy thing for a staff member to step  
9 forward and present his own views where they differ from  
10 those of others, and I commend you for it.

11 MR. YIN: Thank you.

12 CHAIRMAN PALLADINO: We all agree on that. We  
13 thank you, and I would like to declare a 15-minute break.  
14 We will come back and at least discuss the USGS comments  
15 on the new report and the staff comments.

16 So we'll come back in 15 minutes.

17 (A short recess was taken.)  
18  
19  
20  
21  
22  
23  
24  
25

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the matter of:

DISCUSSION/POSSIBLE VOTE ON DIABLO  
CANYON CRITICALITY AND LOW POWER  
OPERATION

Docket No.

Location: Washington, D. C.

Pages: 136 - 287

Date: Tuesday, March 27, 1984

**TAYLOE ASSOCIATES**

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1 continuation of the suspension.

2 Mr. DeYoung's reply dated March 26, yesterday,  
3 determined that first, PG&E did in fact commit a material  
4 false statement for failing to report the 1977 NSC audit.  
5 They determined that it was a severity level four with no  
6 civil penalty. They denied the request for revocation or  
7 continuation of the suspension of the low power license and  
8 as under any 2.206, we noted that the Commission in fact can  
9 undertake a review of the IE decision under 2.206(c).

10 So this was issued yesterday. I just wanted  
11 for completeness to make sure we pointed out that that  
12 is where the staff had come down.

13 CHAIRMAN PALLADINO: If we issue an order on this  
14 plant, would that settle that?

15 MR. EISENHUT: I think the Commission can certainly  
16 review this on a normal timeframe. This was just signed  
17 yesterday and I think certainly we would view it that  
18 that petition is a separate matter that you would be able to  
19 undertake a review on.

20 The last item I wanted to mention is sort of a  
21 recommendation and our proposal on the area of small bore  
22 piping, principally small bore piping, but large bore piping  
23 also. This is in response to a number of questions and  
24 concerns about where we are really heading in this area.

25 CHAIRMAN PALLADINO: I particularly want to have the

1 staff state its position and approach in dealing with the  
2 issues raised by Isa Yin regarding small bore and large bore  
3 piping,

4 MR. EISENHUT: I can do that and let me try to back  
5 up a little bit and reflect on these issues. These concerns  
6 started coming up from the staff in probably late December or  
7 early January.

8 Those of you who are into reading transcripts will  
9 notice that we had a number of meetings on this subject. By  
10 the end of January, it had elevated to a concern level where,  
11 in fact, I chaired a meeting or attempted to chair a meeting  
12 in San Francisco on January 31. At that time I characterized  
13 these concerns basically as they are not Mr. Yin's concerns,  
14 they are the staff's concerns.

15 I attempted to reflect them as these are questions  
16 we put to PG&E. They are questions that we thought we needed  
17 to get an answer from PG&E on. This is somewhat of our  
18 usual approach of if we have questions, we put them back to  
19 the utility. We formally documented it with a transcript so  
20 we could keep track of where we are going.

21 As a result of that meeting, we and I haven't gone  
22 back and read the transcript, but I am pretty sure that at the  
23 end of that meeting, we identified a number of areas where we  
24 thought the utility would have to provide information to the  
25 staff to assist us to do our evaluation.

1           The utility has done that. It was my understanding  
2           that the principal concerns up through that point in time up  
3           until very recently, the principal concern related to the  
4           reevaluation of small bore piping supports principally  
5           those that were done by a computer calculation. You get  
6           to something on the order of about 1,800. Furthermore, it  
7           is my understanding that the principal problems were identified.  
8           A program was in place by the utility. The utility has  
9           submitted a proposal.

10           To date, he has evaluated something on the order  
11           of over 100 of those. No physical changes or problems have  
12           been identified to date. But it is fair to say -- it not  
13           fair to say that it is just Mr. Yin's concern of the technical  
14           nature of the problem. The problems to date principally have  
15           related to the field engineering approach to small bore  
16           piping supports.

17           There were allegations that this group worked under  
18           extreme pressure. They were given mandates to perform so many  
19           calculations in a certain period of time. We have concluded  
20           that there are questions about the training that those  
21           individuals received. I don't think there is any debate on  
22           that at this point.

23           I think the staff generally feels that those things  
24           happened and I believe the utility recognizes that some things  
25           happened. But bottom line again is that of the ones that



1 have been reanalyzed to date, the significance of the ones  
2 that are reanalyzed have appeared to be minor in the physical  
3 hardware final end product.  
4

5 Yesterday morning for the first time the staff learned  
6 of the three-page statement of Mr. Yin. During the last few  
7 days and, in fact, what may have led to that in some way is  
8 in fact we have polled the staff asking them, "Do you have any  
9 questions, do you have any concerns with where we are going  
10 up to this point in time?" The only member that came forth  
11 was Mr. Yin.

12 Yesterday morning for the first time is where we  
13 saw the three-page statement that was read yesterday. So  
14 where this leads us --

15 CHAIRMAN PALLADINO: Was that the first time you  
16 heard about his concerns about large bore piping?

17 MR. EISENHUT: Yes, it was. It may have actually  
18 preceded it somewhat of a day or two in terms of the fact  
19 that he was differing with the bottom line so-to-speak. There  
20 were questions as far back as January about some large bore  
21 piping. We, in fact, did a couple of sample calculations  
22 and I will get to those if we want in just a minute.

23 To wrap it up though so-to-speak, what we would  
24 propose is that first from a staff evaluation standpoint, we  
25 need to complete the job. We haven't completed the job. We  
are going to be going back out to the plant next week. Mr.

1 Yin is going to be doing some continuing review work. That is  
2 number one.

3  
4 Number two is we have to complete our inspection  
5 report.

6 CHAIRMAN PALLADINO: You say complete the job. I  
7 am not sure I understand.

8 MR. EISENHUT: In terms of inspections at the  
9 facility and at one of the PG&E's contractors. So Mr. Yin  
10 feels he has three or four days of work that has previously  
11 been identified that has to be conducted yet, field work.

12 COMMISSIONER ASSELSTINE: Is that related to large  
13 bore, small bore or both?

14 MR. EISENHUT: I think it is a combination of the  
15 overall problem. I want to make sure that it is not broken  
16 out so specifically.

17 COMMISSIONER ASSELSTINE: All right.

18 MR. EISENHUT: That is the first item. The second  
19 item is he would have to take time to complete his inspection  
20 report. We have a partial draft inspection report but it is  
21 clear that it is preliminary findings and it is not completely  
22 together.

23 Third, in fairness to the way we have been doing  
24 this effort, we have probably a month to a month and a half  
25 ago, we undertook to bring in inspectors from other regions.  
We brought in an inspector from Region I, a supervisor from

1 Region I, a supervisor from Region II and a supervisor from  
2 Region III to assist in this effort.

3 We have proposed going through that process and  
4 finishing the review of that by this panel of supervisors.

5 The fourth step we would propose is when that is  
6 complete, we would propose taking this to the ACRS Subcommittee.  
7 You will recall that we just went to the ACRS Subcommittee  
8 on a number of allegations last month, I believe. We would  
9 propose taking this product back there.

10 Then we would propose, of course, bringing it to the  
11 Commission. We hope to wrap that evaluation effort up  
12 prior to coming down with any recommendation for full power.

13 It is the staff's view though that the problems  
14 principally have been identified. There is no real debate  
15 on the technical issues, per se, at this point in time albeit  
16 there are some differences in terms, I am sure, of some of  
17 the details and we are first learning of some of the details  
18 at this point in time.

19 For small bore piping there is a program in place,  
20 small bore piping and the area around it was principally where  
21 the issues have been brought up over the last two or three  
22 months. That program is in place. It is continuing. No  
23 physical modifications have been the result of that evaluation  
24 to date. So we would recommend going forth with the low  
25 power license.

22

1 MR. KNIGHT: I feel it necessary just to make sure  
2 that the record is clear, Mr. Yin has been largely reporting  
3 to me in this effort and I certainly have been aware from  
4 the onset of his efforts that Isa was developing concerns  
5 related to starting with matters of training and documentation  
6 that we discussed at the meeting in San Francisco.

7  
8 As a matter of fact, I think it was a full airing  
9 of concerns up to that, I would believe since he was  
10 performing that effort, up to that point. There has been  
11 dialogue between us as to what steps are appropriate before  
12 full power and what steps are appropriate for five percent  
13 power.

14 I have been taking his input and synthesizing it with  
15 inputs from other people involved and my own experience and  
16 judgment. So I just wanted to be clear that this dialogue  
17 has been going on throughout this process and I would  
18 anticipate would continue throughout the process.

19 There is, I think, beyond question a focus now  
20 on a significant philosophical difference as to how one  
21 should approach such an assurance program or reverification  
22 program. That is something that I think we need to work out.

23 COMMISSIONER GILINSKY: What are your thoughts on  
24 his observation that it is difficult to do the work once the  
25 plant goes hot?

MR. EISENHUT: I would like to comment on that if I

1 could.

2 COMMISSIONER GILINSKY: Sure.

3 MR. EISENHUT: I don't really see it that way.  
4 Historically in fact any plant, of course, that we have been  
5 to that is an operating plant when it is actually operating  
6 and operated for some time and of course it is not only a  
7 temperature environment, but there is a radiation environment.  
8 This plant though is a low power license. It is a very,  
9 very minimal amount of actual exposure the core is going to see  
10 and really no build-up of radioactive products. You go into  
11 any confined enclosed containment with operating temperatures  
12 and pressures, of course, it is going to be not the best  
13 environment to be in. Some are worse than others.

14 However, for modifications you can certainly after  
15 you have conducted the low power testing program generally  
16 you purge the containment, they can bring the plant down  
17 and do any modifications that are necessary and you can bring  
18 it back to essentially the same environment that you have at  
19 this point.

20 The radioactive fission product should essentially  
21 be no real significant contribution to that. If you have ever  
22 gone to any operating plant just in the southern half of the  
23 United States in the summertime and gone inside the contain-  
24 ment, you can very easily know that it is well over 100  
25 degrees inside the containment.



24

1 (Whereupon, at 11:45 o'clock a.m., Commissioner  
2 Roberts exited the hearing room.)

3 COMMISSIONER GILINSKY: He was talking about the  
4 need to suit up and so on.

5 MR. EISENHUT: Again, you really don't expect a  
6 major -- any amount of radioactivity after you conduct a low  
7 power testing program which is of a very short duration and  
8 you can shut the plant down and you purge the containment.  
9 In fact, many plants actually purge the containment as we  
10 have discussed on many, many occasions even during operation  
11 and certainly during shutdown.

12 So we don't see that low power testing would preclude  
13 them from going in and doing any necessary modifications that  
14 might come out of this effort.

15 MR. KNIGHT: I think I would like to add just one  
16 other point, that in a program such as we are viewing here  
17 it would certainly be appropriate to set aside times for  
18 inspections or for other work so that you have agreed upon  
19 times when the plant will be in the best condition for that  
20 effort.

21 MR. EISENHUT: I think that is correct and I think  
22 that can be accommodated very easily.

23 CHAIRMAN PALLADINO: Any other points?

24 (No response.)

25 CHAIRMAN PALLADINO: If there are no other points, I

25 1 was going to call on GAP for three minutes.  
2

3 COMMISSIONER GILINSKY: Before you do that, I have  
4 one question.

5 COMMISSIONER ASSELSTINE: I have questions on this,  
6 too.

7 COMMISSIONER GILINSKY: If you want to ask about that,  
8 I had a question on another point.

9 COMMISSIONER ASSELSTINE: All right. I had just  
10 a couple on this. Darrell, the sense I got yesterday was that  
11 particularly with respect to the large bore piping area  
12 although there has been some discussion of Mr. Yin's concerns  
13 and you can get that from reading the transcript of the  
14 previous meeting, that there was some additional information  
15 really that had come out of these most recent inspections  
16 where the inspection reports weren't available yet and that  
17 that was information that he thought was particularly signifi-  
18 cant.

19 I guess my question is what is the basis for and  
20 how can the staff reach the judgment that this isn't a concern  
21 for low power operation until you have had a chance to look  
22 at that information and to conduct the kind of review that  
23 I think you and Harold were talking about doing yesterday?  
24 I am trying to get a feel for what the basis is for saying,  
25 "Yes, we can go ahead pa. cularly in those areas where they  
seem to be new concerns that the staff had not focused on

1 specifically or certainly as much as they focused on the small  
2 bore piping concerns."

3 MR. KNIGHT: I would like to start at least in  
4 response. As I said yesterday, the issue of piping in general  
5 and small and large bore piping in particular is not in and of  
6 itself a new item or a new issue. As a matter of fact, one  
7 of the items that is on the list of holdovers on the IDVP is,  
8 in fact, additional piping analysis. That effort is directed  
9 at what is nominally large bore piping.

10 There are two systems the staff picked because of  
11 their complexity and because of much of the same background,  
12 I think, has given Mr. Yin concerns and that is problems that  
13 arose during the reverification analysis where there were in  
14 the ITR's identified errors if you will or misapplication of  
15 specification factors, some of the nitty-gritties, in the  
16 analysis.

17 Based on that, we required the utility to go back  
18 and take two systems that we picked because of their  
19 complexity and do a complete analysis, piping and supports,  
20 large bore pipe and supports. We received that report in  
21 January. At about that time we were starting to heavily  
22 commit our resources to allegation review so we did take the  
23 time to look at the report and review its conclusions which  
24 are that both of the systems picked in all aspects were  
25 satisfactory.

27

1 In my view and I think the view of some of the others  
2 of the staff, this is a significant step, a significant piece  
3 of information that says we don't have some large scale  
4 problem in the design of this piping.

5 COMMISSIONER ASSELSTINE: Now you have the  
6 inspection that comes after that, am I right?

7 MR. KNIGHT: The inspection largely relates to the  
8 same information that was available to the staff.

9 COMMISSIONER ASSELSTINE: Prior to this reverifica-  
10 tion program?

11 MR. KNIGHT: Yes. If what is troubling you is the  
12 remarks yesterday that Mr. Yin's report is new, part of my  
13 information is based on discussions with him this morning  
14 and he may well want to talk about that. As I said, in my  
15 view what you have here is a rather distinct philosophical  
16 difference, one that says just looking at some systems, some  
17 piping, and the fact that they turned out all right isn't or  
18 may not be enough. That if you had problems in your program,  
19 that is not enough confidence. You need more somehow. That  
20 is an area that really represents a standard that hasn't been  
21 applied before.

22 COMMISSIONER ASSELSTINE: How do you respond to his  
23 concern that the problems that he found seem to slip through  
24 a number of different reviews and I guess including the one  
25 that is of particular concern to me, the IDVP. I asked you

1 that yesterday before we talked about or before Mr. Yin  
2 talked about his concerns. I wonder if you want to take  
3 another crack at that and respond to that.

4 MR. KNIGHT: I don't believe that the record shows  
5 that the concerns slipped through the IDVP. I think where  
6 the IDVP looked at some of these areas, they saw some of the  
7 same problems. The difference is the conclusion one draws  
8 based on other elements of information.

9 Again the philosophical modus behind the IDVP  
10 was to look at a sample, to apply engineering judgment, to  
11 make a bottom line judgment as to the quality and I use that  
12 word of the overall engineering effort, and with that  
13 perspective would one either conclude that there was bad  
14 engineering and therefore an unacceptable system or generally  
15 good engineering and therefore an acceptable system.

16 COMMISSIONER ASSELSTINE: The only other thing I  
17 was going to ask you was perhaps if Mr. Yin wanted to make  
18 a couple of brief rebuttal comments, if there was anything  
19 else that he wants to add at this point. I guess the part  
20 that is still troubling to me is and maybe I just don't have  
21 the chronology well in place, but the concern I have is  
22 if these problems were still continuing now, we are still  
23 finding these kinds of items of concern, why that is the case  
24 and should be sorted out at least in terms of their signifi-  
25 cance before low power operation.



1 MR. KNIGHT: There certainly is still some sorting  
2 out still to do. There is no question about that. Fundamen-  
3 tally we are saying that the information to the best of my  
4 knowledge at this time that we have indicates that the basis  
5 for our moving ahead, for acceptance of the IDVP and for  
6 proceeding through the hearing is still there. I don't  
7 believe that there has been sufficient or substantive new  
8 information to say that that has changed. There is reason  
9 to look, but I don't think there is information to say that  
10 that has changed.

11 CHAIRMAN PALLADINO: Is more inspection needed?  
12 Is that one of the contentions?

13 MR. KNIGHT: I think the need for more inspection  
14 is based on Mr. Yin being satisfied having been given this  
15 assignment that he has to the best of his ability developed  
16 all of the information necessary to fulfill his assignment.

17 COMMISSIONER BERNTHAL: I must say that I share  
18 Jim's concern and chagrin, I guess, that this issue was  
19 raised in December. It was raised again in a meeting in  
20 January and the staff was specifically asked about it. It  
21 was raised again in February and while you explained to some  
22 extent what was my principal question at the end of yesterday's  
23 session which was what in the world has been going on for the  
24 last three and a half months, it just seems to me that it is  
25 not very satisfactory for us to come to this point with a

1 fundamental difference in engineering judgment. My preference  
2 would be if that can be worked efficiently and I appreciate  
3 the third-party review you have suggested there, that I  
4 thought that one of our reasons for having the ACRS was  
5 in such cases perhaps that they would serve as a third-party  
6 expert outside opinion group who would give us their  
7 engineering judgment on what clearly appears to be a difference  
8 in engineering judgment here.

9 CHAIRMAN PALLADINO: Is there a difference? I  
10 gather there is going to be the continued inspection. There  
11 is going to be the analysis and I presume the analysis would  
12 be such that it would satisfy peer review and then decisions  
13 on what changes if any need to be made to the hardware. Is  
14 that not the plan of action?

15 MR. EISENHUT: I think you are correct. In fact,  
16 as Commissioner Bernthal said, certainly we don't like to see  
17 in a situation on any issue on any plant where we get to the  
18 point where ultimately in the final analysis we don't have a  
19 collegial consensus. In some cases that does not happen.  
20 In some cases it evolves up to the very late in the exercise  
21 before we even realize or anyone comes forth and says they  
22 have a basic concern with the bottom line.

23 Believe me, it is a situation that we certainly  
24 don't like to be in. We have another one where I called off  
25 or proposed to call off a Commission meeting because

1 at sort of the eleventh hour we had a different opinion even  
2 though all through the line through the process we had the  
3 formal concurrences and didn't realize there was this situation  
4 developed to within a week of the Commission meeting.

5 I think on a more generic subject, the answer would  
6 have been let's go back home and reevaluate some more but at  
7 the same time when you are talking about a plant, you at the  
8 same time have to -- it is a collegial process just as the  
9 Commission is and from time to time one element isn't as happy  
10 as other elements.

11 COMMISSIONER GILINSKY: I don't think Fred is saying  
12 that everybody has to agree. As I understood it, he was  
13 addressing more the fact that the disagreement should have  
14 been addressed earlier.

15 MR. CASE: You can't know, Commissioner Bernthal,  
16 until you vote whether you and Commissioner Gilinsky are  
17 going to agree.

18 That is the situation you have here. I don't want  
19 Isa criticized or Jim. They tried to work together as best  
20 they could and eventually they disagreed and there is nothing  
21 wrong with that but they did make the effort to work together.

22 COMMISSIONER BERNTHAL: I understand.

23 CHAIRMAN PALLADINO: What did they disagree on?

24 MR. EISENHUT: Principally not on technical issues.  
25 I think that is the key. The record clearly speaks out that

1 the staff has technical reservations. It is a matter then  
2 of what do you do with those and how you paint those  
3 technical questions. In one person's mind they are more  
4 severe than the other and on one hand, someone who has been  
5 evaluating it with dozens of different evaluations for the  
6 last 15 years, Jim has to factor that in the back of his mind.  
7 You come to an integrated judgment.

8  
9 COMMISSIONER BERNTHAL: Maybe if Isa could address  
10 the question without having a back and forth here of at  
11 least as it has been portrayed today and yesterday of whether  
12 in your judgment the question primarily is one of the timing  
13 of the hardware fixes and not one of technical disagreement  
14 over what needs to be done.

15 COMMISSIONER ASSELSTINE: Or is it the significance  
16 of the technical issue.

17 MR. YIN: I would like to address that but before  
18 I go into that, let me just clear the air a little bit.  
19 Earlier Darrell kind of characterized by input to the  
20 Commissioner's as a kind of surprise but it is really far from  
21 the truth. I was only asked to prepare the statements on  
22 Friday. So I worked all day Saturday and Sunday. As a  
23 matter of fact, I even asked my wife to type it up because  
24 no secretary was available.

25 So it is a short iteration of asking that informa-  
tion that caused the element of surprise. As a matter of fact,

1 I have been providing the inspection inputs, January,  
2 February and March. So every time I have inspection  
3 problem findings, I always communicate in a timely manner  
4 with Mr. Jim Knight and it was kind of surprising, there was  
5 no discussion at all. So it is not my fault not to  
6 communicate. I think it was lack of discussion from the  
7 management regarding my findings is probably the cause of the  
8 surprise element.

9 Besides that, as far as technical problems we do  
10 have some substantial philosophical differences as Mr. Knight  
11 has addressed it. Basically if I have reviewed the IDVP so-  
12 called sampling program, they were about 15,000 feet of small  
13 pipe which amounts to about 35 percent of the small bore  
14 piping population and it includes something like 1,500  
15 supports and it amounts to about 40 percent of the total  
16 population of small bore supports that has not been  
17 evaluated in any form or shape.

18 So if you look at the basis for accepting those  
19 nonevaluated systems, when I reviewed the ITR, the independent  
20 design verification report, it was stated that the original  
21 design criteria is based on the Blume curve.

22 The Blume curve has been widely used by the industry  
23 in the past but a problem with using the Blume curve, there  
24 was no assurance on uniformity on how to apply it because  
25 there was inadequate procedure on how to apply the usage of



1 those criteria. So it is very hard for me to visualize  
2 when you pick maybe 100 or 200 feet of pipe and say that  
3 it is all right and assume the rest of it is correct, just  
4 as if you are inspecting some of the cars. You check three  
5 Chrysler products and you check one Ford Motor and you assume  
6 all GM's are okay, also. So it is that kind of a situation  
7 that we have philosophical difficulties involved.  
8

9 Furthermore, if you look the large bore evaluation,  
10 the Westinghouse calculation was not covered in the IDVP. I  
11 guess the assumption is that Westinghouse knows what they are  
12 doing. To the contrary, we have inspection findings involving  
13 hardware, involving procedure, even involving the computer  
14 input problems that were identified in the past so it was to  
15 my belief that the Westinghouse calculation has never been  
16 reviewed.

17 Furthermore, if you review the IDVP on the large  
18 bore support and piping analysis, they are full of  
19 deficiencies and pages and pages of deficiencies. How can we  
20 assure that the rest of it would not have the same problem  
21 is questionable.

22 Basically the philosophical difference between myself  
23 and the management is to me the definition really on the  
24 licensee criteria. The management's belief is you sharpen your  
25 pencil and you do a rigorous calculation and you still meet  
the cold requirements that is acceptable. But to me, the

1 licensee criteria really extended to the fact whether or not  
2 you can handle the original calculation in accordance with  
3 the QA program procedural requirement. If you are not doing  
4 that even in the final analysis showing the support of piping  
5 meets the requirement, doesn't really give me the confidence  
6 to insure the rest of the piping and the supports are luckily  
7 also meeting the requirements.

8 It is just like a table. If you say you have four  
9 legs of the table and you find that there is one weak leg and  
10 say the table is not going to collapse. I am not too sure.  
11 If all four legs are weak, whether or not if you shake the  
12 table hard enough, if it will not collapse. So this is the  
13 kind of situation we may be facing.

14 However extensive the problem, I have not really  
15 concluded yet. I am still in the process of trying to get  
16 to the bottom of it.

17 Another factor that caused me concern in the large  
18 bore piping area is the fact that contrary to our belief  
19 that it is all handled by Bechtel, it is in fact handled not  
20 only by Bechtel but it is also handled by Cygna, it is  
21 handled by Impell. Impell is the old OEDS and also be  
22 Bechtel themselves.

23 But there is no indication that there has been  
24 any consideration of the evaluation in proportion to that  
25 there are many jobs assigned, many systems assigned and there

36  
1 was no consideration, for instance, if the Cygna did 30  
2 percent of the work, at least the sample size should reflect  
3 in proportion to the work assignments that they had received.  
4 So if we go through that, there is really a lot of questions  
5 that I need to look into. At this particular time, it is  
6 kind of premature to -- it is questionable, but I am not  
7 ready to draw the conclusion but I have discussed this problem  
8 with the management so everything I talk about has been  
9 discussed with our people.

10 CHAIRMAN PALLADINO: Isa, it still comes down at  
11 least in my understanding to whether we are talking about  
12 possible improvements that have to be made before you go to  
13 low power versus making them after they go low power. Is that  
14 still the issue in your mind? I agree that you have to get to  
15 a technical resolution of the issues but after you have  
16 reached that point as Harold put it yesterday, it came down  
17 to when do you make whatever modifications turn out to be  
18 necessary.

19 COMMISSIONER ASSELSTINE: Or is it the question of  
20 the extent to which we now understand the problem. Do we  
21 understand it enough to make the decision on low power  
22 operation?

23 MR. YIN: That is the whole problem here because  
24 we don't know exactly what the magnitude of the problem is  
25 and also I recognize I am only involved in a very restricted

1 area. I am just providing the input for your consideration  
2 and decision. I cannot really in any way second guess the  
3 overall consideration.  
4

5 COMMISSIONER GILINSKY: Yesterday you said that  
6 it would take many months to get this straightened out, as I  
7 recall.

8 MR. YIN: Based on my experience in Region III of  
9 similar problems, it takes about that much time. It takes  
10 much less time but this problem seems to be greater than what  
11 I ever experienced. So I extended it to just three or four  
12 months just in case I encounter any possible difficulties.

13 CHAIRMAN PALLADINO: Isa, Harold Denton did say  
14 that in his mind in the end it came down to a question of  
15 when you made whatever hardware changes turn out to be  
16 necessary. Do you agree that that is the essence of the  
17 problem or is it different from that?

18 MR. YIN: Based on my experience as far as the small  
19 bore is concerned, probably very little or no changes  
20 because the criteria and everything is quite conservative.  
21 But I cannot really second guess anything on the large bore  
22 because of the loading and the severe condition that we  
23 encountered. On the large bore, I have no idea what is  
24 going to be the outcome but for small bore, I would think  
25 it would probably be minimum design changes.

CHAIRMAN PALLADINO: And on the large bore, you don't

1 know?

2 MR. YIN: Yes, large bore, I don't know.

3 COMMISSIONER BERNTHAL: So you are saying on  
4 Commissioner Asselstine's point that you feel that you  
5 understand the small bore problem sufficiently that you  
6 would agree with the characterization that has been made  
7 that it is more of a question of timing difficulty of making  
8 the fixes rather than questions of technical judgment on  
9 what needs to be done? In the case of the large bore, you  
10 are saying that you are not so confident.

11 MR. YIN: It is a different ballgame.

12 COMMISSIONER BERNTHAL: Yes.

13 CHAIRMAN PALLADINO: I still expect that on the  
14 technical issues, you and the rest of the staff will continue  
15 to work to try to get an acceptable resolution.

16 MR. YIN: Yes. I intend to work.

17 COMMISSIONER ASSELSTINE: Let me go back to if I  
18 could briefly, the question that Commissioner Gilinsky raised.  
19 You mentioned yesterday a period of several months. I gather  
20 that was not only to do the analysis, the evaluation, to  
21 understand the significance of the problem but also then to  
22 decide what corrections need to be made and to make the  
23 changes. If you were focussing on the large bore piping  
24 question alone, would it be possible with any briefer period  
25 of time than that to do the remaining inspections and to do an



1 evaluation to conclude or to reach a judgment in your view  
2 on the significance of the problem and, if so, about how  
3 long do you think it would take to do something like that?

4 MR. YIN: My estimate of six to nine months  
5 already included large bore. As a matter of fact, it may  
6 be proportionately less for the small bore. It would be  
7 a lot more involved in the large bore.

8 COMMISSIONER ASSELSTINE: All right.

9 CHAIRMAN PALLADINO: Any other questions?

10 COMMISSIONER GILINSKY: I had a question I wanted to  
11 ask on another subject if you are finished with that.

12 COMMISSIONER ASSELSTINE: Yes.

13 COMMISSIONER GILINSKY: I remember some time ago  
14 that Jack, you were telling us, I think, about the  
15 electrical contractor's documents and there was some question  
16 about whether they had been secured or turned over to PG&E  
17 or audited by NRC. Do you remember that? It was a condition  
18 or a statement in one of our SER's that said that this was  
19 to be straightened out before criticality.

20 Can you deal with that?

21 MR. MARTIN: Yes. That was the Foley document  
22 review where we had numerous allegations from an anonymous  
23 allegor and spent a lot of time looking at the H. P. Foley  
24 document control and found some problems. Some things needed  
25 to be straightened out. There was the caper of the documents in

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

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In the Matter of )  
)  
)

PACIFIC GAS AND ELECTRIC COMPANY )  
)  
(Diablo Canyon Nuclear Power )  
Plant, Units 1 and 2) )  
)  
\_\_\_\_\_)

Docket Nos. 50-275 O.L.  
50-323 O.L.

CERTIFICATE OF SERVICE

I hereby certify that on this 6th day of April, 1984, I have served copies of the foregoing JOINT INTERVENORS' SUPPLEMENT TO MOTION TO AUGMENT OR, IN THE ALTERNATIVE, TO REOPEN THE RECORD, mailing them through the U.S. mails, first class, postage prepaid, to the attached list.

*Christina Concepcion*

CHRISTINA CONCEPCION

## SERVICE LIST

Nunzio Palladino, Chairman  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

Victor Gilinsky, Commissioner  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

Thomas Roberts, Commissioner  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

\*Thomas S. Moore, Chairman  
Atomic Safety & Licensing  
Appeal Board  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

\*Dr. John H. Buck  
Atomic Safety & Licensing  
Appeal Board  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

Lawrence Chandler, Esq.  
Office of the Executive Legal Director - BETH 042  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

David S. Fleischaker, Esq.  
Post Office Box 1178  
Oklahoma City, OK 73101

Bruce Norton, Esq.  
Norton, Burke, Berry & French  
P.O. Box 10569  
Phoenix, AZ 85016

Malcolm H. Furbush, Esq.  
Vice President & General Counsel  
Philip A. Crane, Esq.  
Pacific Gas and Electric Company  
Post Office Box 7442  
San Francisco, CA 94120

James Asselstine, Commissioner  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

Frederick Bernthal, Commissioner  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

Samuel J. Chilk, Secretary  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

\*Dr. W. Reed Johnson  
Atomic Safety & Licensing  
Appeal Board  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

\*Docket and Service Branch  
Office of the Secretary  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

John Van de Kamp, Attorney General  
Andrea Sheridan Ordin, Chief Attorney General  
Michael J. Strumwasser,  
Special Counsel to the Attorney General  
Office of the Attorney General  
State of California  
3580 Wilshire Boulevard, Suite 800  
Los Angeles, CA 90010

Richard B. Hubbard  
MHB Technical Associates  
1723 Hamilton Avenue  
Suite K  
San Jose, CA 95125

Virginia and Gordon Bruno  
Pecho Ranch  
Post Office Box 6289  
Los Osos, CA 93402

Sandra and Gordon Silver  
1760 Alisal Street  
San Luis Obispo, CA 93401

Carl Neiburger  
Telegram Tribune  
Post Office Box 112  
San Luis Obispo, CA 93402

Tom Devine  
Government Accountability Project  
1901 Que Street, N.W.  
Washington, D.C. 20009

Eric Havian, Esq.  
Heller, Ehrman, White & McAuliffe  
44 Montgomery Street., 31st Floor  
San Francisco, CA 94133

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\* By Express Mail